REMARKS

This paper is in response to the February 2, 2005 final Office Action and the June 20, 2005 Advisory Action. A Notice of Appeal was filed on June 2, 2005.

Upon entry of the present amendment, claims 1-14, 17 and 67-72 will be pending in the present application. Claim 1 has been amended and new claims 68-72 added. Support for the amendments to claim 1 and new claims 70-71 can be found, for example on page 9, lines 9-24 and page 23, lines 1-8 of the instant specification. Support for new claim 69 can be found, for example on page 2, lines 2-3 of the instant specification. Support for new claim 72 can be found, for example on page 3, lines 26-28 of the instant specification. No new matter has been added.

Rejections under 35 U.S.C. § 103

Claims 1-6, 17, 67 and 68 are rejected over Kallioniemi *et al.* U.S. Publication No. 2002/0132246 ("Kallioniemi") in light of McGill *et al.* U.S. Patent No. 5,658,730 ("McGill").

The rejection is traversed to the extent it is applied to the claims as amended. Applicants have amended claim 1, from which 2-6, 17, 67 and 68 depends, to specify that the method results in less aggregating hybridization or less background relative to hybridization of the target genomic nucleic acid to the probes using target nucleic acids with labeled fragments of length greater than about 200 bases.

There is no suggestion in the cited references of a method with these features. As noted by the Examiner, Kallioniemi does not describe an array-based comparative genomic hybridization (CGH) method in which the labeled genomic DNA fragments are less than 200 bp (see page 5, paragraph 2 of the Office Action). McGill does not describe a CGH method but is instead cited for describing a method for detecting chromosome 8 amplification using probes that can be about 20 bp (page 5 paragraph 3 of the Office Action). But there is no suggestion in either reference, singly or in combination, of a method that uses as a label genomic DNA that is provided in a fragment that is less than about 200 bases, and which results in less aggregating hybridization or less background relative to hybridization of the target genomic nucleic acid to the probes using target nucleic acids with labeled fragments of length greater than about 200 bases.

New claim 72 (which depends from claim 1 and from which depends claims 67-69) additionally requires that the fragments of genomic acid include nucleic acids from all of one or more chromosomes of the organism. There is no suggestion in either Kallioniemi or McGill of a method using a short (less than about 200 bases) probe with the sequence complexity required by claim 72, and which results which results in less aggregating hybridization or less background relative to hybridization of the target genomic nucleic acid to the probes using target nucleic acids with labeled fragments of length greater than about 200 bases. Kallioniemi, as noted above, does not discuss probes less than about 200 bases, and the short probes described in McGill are comparatively low complexity oligonucleotides based on defined sequences from human chromosome 8. However, there is no suggestion in either reference that labeling a fragment with a complexity corresponding to one or more chromosomes of an organism. For at least these reasons, new claim 72 and dependent claims 67-69 are further non-obvious over the combination of Kallioniemi and McGill.

Claims 7, 8 and 10 are rejected as unpatentable over Kallioniemi, McGill and Anderson et al., Nucl. Acids Res. 9:3015-27, 1991 ("Anderson"). The rejection is traversed to the extent it is applied to the claims as amended. Claims 7, 8, and 10 depend from claim 1 which, for the reasons provided above, is non-obvious over the combination of Kallioniemi and McGill. Anderson is cited for describing a method for fragmenting genomic DNA using DNAse; however, it fails to overcome the deficiencies of Kallioniemi and McGill described above.

Claim 9 is rejected as unpatentable over Kallioniemi, McGill, Anderson, and Waggoner, US Patent No. 5,268,486 ("Waggoner"). Claim 9 depends from claim 8, which for the reasons provided above is non-obvious over the combination of Kallioniemi, McGill, and Anderson, Waggoner is cited for describing luminescent cyanine dyes; however, it, too fails to overcome the deficiencies of Kallioniemi, McGill, and Anderson.

Claim 11 is rejected as unpatentable over Kallioniemi, McGill, Anderson, and Ordahl, Nucl. Acids Res. 3:2985-99, 1976 ("Ordahl"). Claim 11 depends from claim 1, which for the reasons provided above is non-obvious over the combination of Kallioniemi and McGill. Anderson has been discussed above. Ordahl is cited for describing a method for fragmenting DNA using a French press. However, there is no suggestion in this reference of the invention of claim 1; thus it, too fails to overcome the deficiencies of Kallioniemi, McGill, and Anderson.

On the basis of the foregoing amendments and remarks, Applicants submit that the pending claims are in condition for allowance.

If the Examiner has any questions regarding these amendments and remarks, the Examiner is encouraged and invited to contact the undersigned at the telephone number provided below.

The Commissioner is authorized to charge any fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 27476-504.

Respectfully submitted,

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